

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-26. (canceled)

27. (currently amended) A method of locating an electromagnetic protection defect (DF) in an electrical harness (H) including at least one sheath of electromagnetic shielding (GB), the method comprising:

a) an amplification step of producing stimulation electrical signals in an operating frequency range and at a predetermined power level;

b) an application step of applying said stimulation electrical signals to said shielding sheath of electromagnetic shielding in order to generate an electromagnetic field in a detection zone; and

c) an analysis step of taking temperature measurements in said detection zone, drawing up a map of the temperatures that result from radiant energy being emitted by the electromagnetic field via a defect of the harness and being converted into heat, and locating the defect of the harness on the map.

28. (previously presented) A method according to claim 27, wherein the frequency of said stimulation electrical signals lies in the range 1 GHz to 5 GHz.

29. (previously presented) A method according to claim 27, wherein said stimulation electrical signals are of the sinewave type.

30. (currently amended) A method according to claim 27, wherein,  
said detection zone is close to said shielding sheath  
(GB), and  
the located defect is an electromagnetic protection defect located within said electrical harness comprising said shielding sheath of electromagnetic shielding, said shielding sheath absorbing the energy of the electromagnetic field.

31. (previously presented) A method according to claim 27, wherein the temperature range of said temperature map is converted into a palette of colors.

32. (currently amended) A method according to claim 31, wherein a predetermined range of colors defines a rejection criterion whereby [[a]] said harness (H) is determined as suffering from at least one electromagnetic protection defect.

33. (currently amended) A method according to claim 27, the method being implemented on [[a]] said harness (H) having its shielding sheath (GB) constituted by a textile braid (TT) on which a layer of a material has previously been deposited, the material absorbing electromagnetic field energy, and

the located defect is an electromagnetic protection defect located within the harness, said shielding sheath absorbing the energy of the electromagnetic field, said harness being connected to an equipment, without disconnecting the equipment.

34. (currently amended) A method according to claim 27, the method being implemented on [[a]] said harness (H) having its shielding sheath (GB) constituted by a textile braid (TT) with hollow fibers containing a material absorbing electromagnetic field energy.

35. (currently amended) A method according to claim 27, the method being implemented on [[a]] said harness (H) having its shielding sheath (GB) constituted by a braid of metal wires onto which a material is applied, the material absorbing electromagnetic field energy.

36. (previously presented) A method according to claim 33, wherein the material contains carbon particles.

37. (previously presented) A method according to claim 34, wherein the material contains carbon particles.

38. (previously presented) A method according to claim 35, wherein the material contains carbon particles.

39. (previously presented) A method according to claim 27, the method being implemented on a plurality of adjacent harnesses.

40. (currently amended) Apparatus for locating an electromagnetic protection defect (DF) in an electrical harness (H) including at least one sheath of electromagnetic shielding (GB), the apparatus comprising:

- first means (M1) for generating stimulation electrical signals in an operating frequency range at a predetermined power level;

- second means (M2) connected to the first means (M1) via a link (1) for raising said stimulation electrical signals to a predetermined power level;

- third means (M3) connected to the second means (M2) via a link (2), for applying said stimulation electrical signals

to the shielding sheath (GB) of electromagnetic shielding in such a manner as to generate an electromagnetic field (EM);

· fourth means (M4) for converting the radiant energy emitted by the electromagnetic field (EM) at a defect into thermal energy (ET); and

· fifth means (M5) for detecting the thermal energy and associated with an image acquisition and storage unit (UA), an image processor unit (UT), and an image display unit (UR) in order to perform thermal analysis, draw up a temperature map (CT), and locate on said temperature map the electromagnetic protection defect (DF) of said shielding sheath (GB) of the harness (H), the located defect being an electromagnetic protection defect located within the harness, said shielding sheath absorbing the energy of the electromagnetic field, said harness being connected to an equipment, without disconnecting the equipment.

41. (previously presented) Apparatus according to claim 40, wherein the fourth means (M4) comprises an electrically conductive material absorbing electromagnetic field energy.

42. (previously presented) Apparatus according to claim 41, wherein said electrically conductive material contains carbon.

43. (previously presented) Apparatus according to claim 41, wherein the fourth means is external to said harness (H) and comprises a flexible film on which the electrically conductive material has been deposited.

44. (previously presented) Apparatus according to claim 43, wherein said electrically conductive material contains carbon particles.

45. (previously presented) Apparatus according to claim 40, wherein the fifth means (M5) comprise an infrared camera.

46. (previously presented) Apparatus according to claim 40, including means for drawing up a temperature map (CT) in the form of a false color display, each color representing a predetermined temperature difference.

47. (previously presented) Apparatus according to claim 46, wherein a criterion for rejecting said harness (H) corresponds to a predetermined range of colors.

48-52. (cancelled).

53. (new) A method of locating an electromagnetic protection defect (DF) in an electrical harness (H) including at

least one sheath of electromagnetic shielding (GB), the method comprising:

a) an amplification step of producing stimulation electrical signals in an operating frequency range and at a predetermined power level;

b) an application step of applying said stimulation electrical signals to said shielding sheath of electromagnetic shielding in order to generate an electromagnetic field in a detection zone; and

c) an analysis step of taking temperature measurements in said detection zone, drawing up a map of the temperatures that result from radiant energy being emitted by the electromagnetic field via a defect of the harness and being converted into heat, and locating the defect on the map,

wherein the temperature range of said temperature map is converted into a palette of colors.

54. (new) A method according to claim 53, wherein the frequency of said stimulation electrical signals lies in the range 1 GHz to 5 GHz.

55. (new) A method according to claim 54, wherein said stimulation electrical signals are of the sinewave type.

56. (new) A method according to claim 54, wherein, said detection zone is close to said shielding sheath (GB).

57. (new) A method according to claim 54, wherein a predetermined range of colors defines a rejection criterion whereby the harness (H) is determined as suffering from at least one electromagnetic protection defect.